

WHAT IS CLAIMED IS:

1. An electron source manufacturing apparatus comprising:

5 (a) a support which supports a substrate having a conductor formed thereon and has means for adjusting a temperature of the substrate;

(b) a vessel which has a gas inlet port and a gas exhaust port and covers part of the substrate;

10 (c) means for introducing and exhausting gas into and from said vessel; and

(d) means for applying a voltage to the conductor, wherein part of said support has a groove.

2. An electron source manufacturing apparatus comprising:

15 (a) a support which supports a substrate having a plurality of conductors each comprising a pair of electrodes and a conductive film formed between the electrodes;

20 (b) a vessel which covers part of the substrate;

(c) means for introducing and exhausting gas into and from a space defined by said vessel and the substrate; and

25 (d) means for applying a voltage to each conductor,

wherein said support has a groove in a surface in contact with the substrate.

3. An apparatus according to claim 1 or 2, wherein the groove is formed along a periphery of a region where the conductor is laid out.

5 4. An apparatus according to claim 1 or 2, wherein the groove is substantially rectangularly formed along a periphery of a region where the conductor is laid out.

10 5. An apparatus according to claim 3, wherein one end of the groove is located by not less than 1 mm inward from the periphery.

15 6. An apparatus according to claim 3, wherein the other end of the groove is located by not less than 10 mm outward from the periphery.

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